

Remarks

I. 35 USC §103 - Kerr in view of Willkie

The Office Action rejects claims 1-13, 17-22 and 24-27 under 35 USC §103(a) as allegedly being unpatentable over U.S. Patent No. 6,243,667 to Kerr et al. ("Kerr") in view of U.S. Patent No. 6,682,851 to Willkie et al. ("Willkie").

A. Claim 1

Regarding claim 1, the Office Action states:

Regarding **Claim 1** Kerr et al. discloses a method of identifying multiple packets in a communication flow between a source entity and a destination entity, comprising (see figure 2, message flow patterns):

storing a first flow identifier of a first packet received from a source entity for a destination entity, wherein said first flow identifier comprises an identifier of the source entity and an identifier of the destination entity (see col. 3, lines 57-67, flow identifying, identifying a flow for the packet, see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the source and the destination);

storing said first packet in a packet memory for transfer toward the destination entity; storing a second flow identifier of a second packet(see col. 6, lines 32-42, flow cache(memory), stores the flow identifiers, see col. 3, lines 56-67, the router stores the packet for transfer to the destination);

storing said second packet in said packet memory; determining whether said first flow identifier matches said second flow identifier(see col. 3, lines 55-67, the router stores packets, and identifies the message flow using the flow identifier of the header);

storing a first indicator in the destination entity if a first communication flow identified by said first flow identifier comprises said second packet;(see col. 7, lines 56-57, collecting and reporting information about messages flow, reporting reads on a indicator), see col. 8, lines 35- 56, the routing device transmits the information packet about message flows(including the flow identified) to a destination device, see col. 4, lines 1-7, the routing device look up the flow cache to determine a flow, results are identified or new) and

storing a second indicator in the destination entity if said first packet is the only packet stored in the packet memory that is part of said first communication flow(see col. 7, lines 56-57, collecting and reporting information about messages flow, reporting reads on a indicator), see col. 8, lines 35-56, the routing device transmits the information packet about message flows(including when the flow identified includes only one packet) to a destination device, see col. 4, lines 1-7, the flow is identified as new if the first packet only packet part of the communication flow).

Kerr et al. fail to explicitly state storing a first indicator in the destination entity, and storing a second indicator in the destination entity as claimed.

However Willkie et al. teaches storing a first indicator in the destination entity, and storing a second indicator in the destination entity (see col. 3, lines 45-65, Willkie et al. teaches a QMIP unit which receives and stores data from a set of modules, which comprises a memory

Applicants have amended claim 1 to recite, in part, storing, in a network interface for the destination entity, a first flow identifier.” Kerr teaches a router that does not store, in a network interface for the destination entity, a first flow identifier. Willkie teaches a wireless communication system that also does not store, in a network interface for the destination entity, a first flow identifier. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Willkie. Other portions of claim 1 have also been amended regarding the network interface for the destination entity, further removing claim 1 from Kerr in view of Willkie. For these reasons applicants respectfully assert that claim 1 and all the claims that depend from claim 1 are nonobvious over Kerr in view of Willkie.

B. Claims 3 and 22

Regarding claims 3 and 22, the Office Action states:

Regarding **Claims 3 and 22** Kerr et al. discloses a method of identifying one or more packets in a communication flow between a source entity and a destination entity, comprising:

receiving a first packet at a communication device(see col. 3, lines 55-56, receives a packet);

identifying a first communication flow comprising said first packet with a first flow identifier configured to identify both the source entity and the destination entity(see col. 3, lines 57-67, flow identifying, identifying a flow for the packet, see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the source and the destination);

determining whether said first communication flow also comprises a second packet received at said communication device after said first packet was received at said communication device(see col. 3, lines 49-67, the router determines the message flow of the received packets);

and

transferring said first packet to a host computer for processing in accordance with a communication protocol associated with said first packet (see col. 8, lines 35-59, the router build an information packet which is then sent to a destination device (host computer), in accordance

to a communication protocol, for processing, see col. 2-3, lines 50-2, the router, processes in accordance to a transmission protocol type of the first packet).

Kerr et al. fail to explicitly point out transferring said first packet to a host computer as claimed.

However Willkie et al. teaches transferring said first packet to a host computer (see col. 3, lines 60-65, the QMIP unit creates a frame which carries data information and flow control information and forwards the frame over the common data link to a host computer(entity)).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Willkie et al. invention because Willkie et al. transfers data between multiple entities over a serial link in a efficient manner(see Willkie et al. see col. 3, lines 38-41).

Applicants have amended claim 3 to recite, in part, “a communication device that is a network interface for a host computer.” Kerr teaches a router that does not have a communication device that is a network interface for a host computer. Willkie teaches a wireless communication system that also does not have a communication device that is a network interface for a host computer. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Willkie. Other portions of claim 3 have also been amended regarding the network interface for the host computer, further removing claim 3 from Kerr in view of Willkie. For these reasons applicants respectfully assert that claim 3 and all the claims that depend from claim 3 are nonobvious over Kerr in view of Willkie.

Applicants have amended claim 22 to similarly recite, in part, “a communication device that is a network interface for a host computer.” Kerr teaches a router that does not have a communication device that is a network interface for a host computer. Willkie teaches a wireless communication system that also does not have a communication device that is a network interface for a host computer. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Willkie. Other portions of claim 22 have also been amended regarding the network interface for the host computer, further removing claim 22 from Kerr in view of Willkie. For these reasons applicants respectfully assert that claim 22 and all the claims that depend from claim 22 are nonobvious over Kerr in view of Willkie.

C. Claims 2 and 24

Regarding claims 2 and 24, the Office Action states:

Regarding **Claims 2 and 24** Kerr et al. discloses everything as applied above (see claims 1 and 3).

prior to said storing a first flow identifier, parsing said first packet to retrieve said identifier of the source entity and said identifier of the destination entity(see col. 3, lines 56-67, the routing device examines a header for the packet, to retrieve identifiers).

Claim 2 depends from claim 1 and claim 24 depends from claim 3, which are nonobvious over Kerr in view of Willkie, as discussed above, and so claims 2 and 24 are also nonobvious.

D. Claim 4

Regarding claim 4, the Office Action states:

Regarding **Claim 4** Kerr et al. discloses everything as applied above (see claim 3).

transferring said second packet to said host computer(see col. 3, lines 55-56, the router receive packet, by definition the router receives packet than forwards the packet to destination);

wherein said host computer is configured to collectively process a header portion of said first packet and a header portion of said second packet in accordance with said communication protocol (see col. 2-3, lines 50-2, the router, processes in accordance to a transmission protocol type of the first packet, see col. 3, lines 57-67, the header is examined, the destination device (host computer) will process the packet likewise).

Claim 4 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 4 is also nonobvious.

E. Claims 5 and 18

Regarding claims 5 and 18, the Office Action states:

Regarding **Claims 5 and 18** Kerr et al. discloses everything as applied above (see claims 3 and 16).

prior to said storing a first flow identifier, parsing said first packet to retrieve said identifier of the source entity and said identifier of the destination entity(see col. 3, lines 56-67, the routing device examines a header for the packet, to retrieve identifiers).

Claim 5 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 5 is also nonobvious. Claim 16 was not actually rejected above, but as discussed below, claim 16 has been amended to overcome the

rejection over Kerr in view of U.S. Patent No. 5,819,111 to Davies et al. Claim 18 depends from claim 16 and so is also nonobvious.

F. Claims 6 and 17

Regarding claims 6 and 17, the Office Action states:

Regarding **Claims 6 and 17** Kerr et al. discloses everything as applied above (see claims 3 and 16).

wherein said identifying comprises:

receiving an index of said first communication flow in a flow database; wherein said first flow identifier comprises said index(see col. 6, lines 31-49, the flow cache had a buckets of entries, of a database flow, which comprises a four-byte pointer(reads on index)).

Claim 6 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 6 is also nonobvious. Claim 16 was not actually rejected above, but as discussed below, claim 16 has been amended to overcome the rejection over Kerr in view of Davies. Claim 17 depends from claim 16 and so is also nonobvious.

G. Claim 7

Regarding claim 7, the Office Action states:

Regarding **Claim 7** Kerr et al. discloses everything as applied above (see claim 3).

wherein said determining comprises comparing said first flow identifier with a second flow identifier associated with a second packet received at said communication device (see col. 4, lines 1-7, the routing device performs lookup in a flow cache comparing the flow identifiers with second packet to determine message flows).

Claim 7 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 7 is also nonobvious.

H. Claim 8

Regarding claim 8, the Office Action states:

Regarding **Claim 8** Kerr et al. discloses everything as applied above (see claim 7).

wherein said determining further comprises:

storing said first flow identifier in a flow memory(see col. 6, lines 29-50, the flow cache stores the flow identifiers in a flow memory) ; and

storing said second flow identifier in said flow memory(see col. 6, lines 29-50, the second flow identifier is stored); and

comparing said stored first flow identifier and said stored second flow identifier(see col. 4, lines 1-7, the message flow is identified by comparing flow identifiers).

Claim 8 depends from claim 7, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 8 is also nonobvious.

I. Claim 9

Regarding claim 9, the Office Action states:

Regarding **Claim 9** Kerr et al. discloses everything as applied above (see claim 8).

wherein said flow memory is an associative memory in said communication device (see figure 3, section 300 flow caches).

Claim 9 depends from claim 8, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 9 is also nonobvious.

K. Claim 10

Regarding claim 10, the Office Action states:

Regarding **Claim 10** Kerr et al. discloses everything as applied above (see claim 3).

storing said first packet in a packet memory (see col. 7, lines 59-61, collecting information about message flow patterns, to include, see col. 8, lines 4-16, collecting (storing) actual data, packets transmitted as part of the flow itself) see col. 2, lines 40-45, the router stores the packet in its memory).

Claim 10 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 10 is also nonobvious.

L. Claim 11

Regarding claim 11, the Office Action states:

Regarding **Claim 11** Kerr et al. discloses everything as applied above (see claim 10).

wherein said determining comprises comparing said first flow identifier configured to identify said first communication flow with a second flow identifier configured to identify a second communication flow comprising a packet stored in said packet memory (see col. 4, lines 1-7, the message flow is identified by comparing flow identifiers, if new flow is determined or old message flow).

Claim 11 depends from claim 10, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 11 is also nonobvious.

M. Claim 12

Regarding claim 12, the Office Action states:

Regarding **Claim 12** Kerr et al. discloses everything as applied above (see claim 3).

Informing said host computer of said transfer of said first packet (see col. 7, lines 59-61, collecting information about message flow patterns, to include, see col. 8, lines 4-16, collecting (storing) actual data, packets transmitted as part of the flow itself, see col. 8, lines 35-46, the host (destination device is informed of message flow which includes transferring of packets)

Claim 12 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 12 is also nonobvious.

N. Claim 13

Regarding claim 13, the Office Action states:

Regarding **Claim 13** Kerr et al. discloses everything as applied above (see claim 12).

said informing comprises configuring an indicator in a host memory(see col. 8, lines 23- 51, the destination device(host compute is sent a information packet(indicator) in which is builds a database(reads on host memory)).

Claim 13 depends from claim 12, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 13 is also nonobvious.

O. Claim 19

Regarding claim 19, the Office Action states:

Regarding **Claim 19** Kerr et al. discloses everything as applied above (see claim 16).

wherein said packet memory comprises said flow memory (see col. 3, lines 40-48, the routing device (packet memory, maintains the flow cache)).

Claim 16 was not actually rejected above, but as discussed below, claim 16 has been amended to overcome the rejection over Kerr in view of Davies. Claim 19 depends from claim 16 and so is also nonobvious.

P. Claims 20 and 27

Regarding claims 20 and 27, the Office Action states:

Regarding **Claims 20 and 27** Kerr et al. discloses everything as applied above (see claims 16 and 3).

storing a first indicator in a host memory if said communication flow comprises said second packet; and storing a second indicator in said host memory if said first packet is the only packet in said packet memory that is part of said communication flow (see col. 4, lines 1-7, the message flow is identified by comparing flow identifiers, if new flow is determined or old message flow).

Claim 16 was not actually rejected above, but as discussed below, claim 16 has been amended to overcome the rejection over Kerr in view of Davies. Claim 20 depends from claim 16 and so is also nonobvious. Claim 27 depends from claim 3, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 27 is also nonobvious.

Q. Claims 25 and 26

Regarding claims 25 and 26, the Office Action states:

Regarding **Claims 25 and 26** Kerr et al. discloses a communication interface, comprising:

- a header parser configured to parse a header of a first packet received at the communication interface, wherein the first packet was issued from a source entity for a destination entity(see col. 3, lines 57-67, the router device examines the headers of the received packets);

- a flow database configured to facilitate management of a communication flow comprising the first packet, the flow database comprising(see1 col. 6, lines 31-49, the flow cache had a buckets of entries, of a database flow, which comprises a four-byte pointer(reads on index));

- a flow key configured to identify the communication flow using identifiers of the source entity and the destination entity(see col. 6, lines 32-36, the flow cache, comprise a memory which associated flow keys which include the source and the destination);

- an activity indicator configured to indicate a recency with which a packet in the communication flow has been received(see col. 5, lines 51-54, at step 241, the routing device examines, in the flow cache and compares the current time with the last time a packet was routed using a particular entry); and

- a validity indicator for indicating whether the communication flow is valid(see col. 3, lines 39-49, the routing device maintains the flow cache and remove message flow that are no longer valid. Indicating message flow is no longer valid);

- a code generator configured to generate an operation code for the first packet, to facilitate forwarding of the first packet toward the destination entity(see col. 6, lines 29-41, the flow cache has flow keys that reads on operation code, which includes information about a particular message flow); and

a packet batching module configured to determine whether a second packet received at the communication interface is part of the communication flow(see col. 3-4, lines 57-7, the router device identifies a message flow by comparing received packets.).

Applicants have amended claim 25 to recite, in part, that “the communication interface is attached to the destination entity.” Kerr teaches a router that does not have a communication interface that is attached to the destination entity. Willkie teaches a wireless communication system that also does not have a communication device that interface that is attached to the destination entity. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Willkie. For these reasons applicants respectfully assert that claim 25 is nonobvious over Kerr in view of Willkie.

Applicants have amended claim 26 to similarly recite, in part, “a communication interface for a destination entity.” Kerr teaches a router that does not have a communication interface for a destination entity. Willkie teaches a wireless communication system that also does not have a communication interface for a destination entity. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Willkie. Other portions of claim 26 have also been amended regarding the communication interface for a destination entity, further removing claim 26 from Kerr in view of Willkie. For these reasons applicants respectfully assert that claim 26 is nonobvious over Kerr in view of Willkie.

II. 35 USC §103 - Kerr in view of Davies

The Office Action rejects claims 14-16 and 23 under 35 USC §103(a) as allegedly being unpatentable over Kerr in view of U.S. Patent No. 5,819,111 to Davies et al. (“Davies”).

A. Claim 14

Regarding claim 14, the Office Action states:

Regarding **Claim 14** Kerr discloses everything as applied above (see claim 13).

Kerr et al. fails to specifically point out wherein said indicator is configured to indicate that said host computer should delay processing

said first packet until said second packet is transferred to said host computer as claimed.

Davies et al. teaches wherein said indicator is configured to indicate that said host computer should delay processing said first packet until said second packet is transferred to said host computer (See col4, lines 8-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16)

Claim 14 depends from claim 13, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 14 is also nonobvious.

B. Claim 15

Regarding Claim 15 Kerr et al. discloses everything as applied above (see claim 13). Kerr et al. fails to specifically point out wherein said indicator indicates that said host computer should not delay processing said first packet as claimed.

Davies et al. teaches out wherein said indicator indicates that said host computer should not delay processing said first packet (See col4, lines 8-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller, otherwise do not delay)

Claim 15 depends from claim 13, which is nonobvious over Kerr in view of Willkie, as discussed above, and so claim 15 is also nonobvious.

C. Claim 16

Regarding Claim 16 Kerr et al. discloses a method of transferring a packet from a network interface to a host computer, comprising:

receiving a first packet at a network interface(see col. 3, lines 55-56, receives a packet);

storing said first packet in a packet memory see col. 3, lines 55-67, the router stores packets)

receiving a first flow identifier configured to identify a communication flow comprising said first packet(see col. 3, lines 57-67, flow identifying, identifying a flow for the packet, see col. 6, lines 29-41,

the flow cache, stores the flow identifiers, including the source and the destination);

storing said first flow identifier in a flow memory(see col. 6, lines 29-41, the flow cache, stores the flow identifiers, including the source and the destination);

searching said flow memory for a second packet in said communication flow received at the network interface after said first packet(see col. 3, lines 49-67, the router determines the message flow of the received packets);

transferring said first packet to said host computer(see col. 8, lines 35-59, the router builds an information packet which is then sent to a destination device (host computer), in accordance to a communication protocol, for processing, see col. 2-3, lines 50-2, the router,

processes in accordance to a transmission protocol type of the first packet); and Kerr et al. fails to specifically point out configuring an indicator in a host memory to indicate whether processing of said first packet by said host computer should be delayed to await transfer of said second packet to said host memory as claimed.

Davies et al. teaches configuring an indicator in a host memory to indicate whether processing of said first packet by said host computer should be delayed to await transfer of said second packet to said host memory (See col4, lines 8-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller, otherwise do not delay).

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16)

Applicants have amended claim 16 to recite, in part, "transferring a header of said first packet to said host computer; and configuring an indicator in a host memory to indicate whether processing of a remainder of said first packet by said host computer should be delayed to await transfer of said second packet to said host memory." Support for this amendment can be found, for example, on page 11, lines 8-29 of the specification. Neither Kerr nor Davies teaches this recitation. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Davies. For these reasons applicants respectfully assert

that claim 16 and all the claims that depend from claim 16 are nonobvious over Kerr in view of Davies.

D. Claim 23

Regarding Claim 23 Kerr et al. discloses a processor readable storage medium containing a data structure configured to store information concerning a packet to be transferred from a network interface to a host computer, the data structure including one or more entries, each entry comprising:

- a flow number configured to identify a communication flow comprising a first packet received at the network interface from a source entity for a destination entity associated with the

- host computer(see col. 6, lines 29-41, the flow cache has flow keys that reads on flow number);

- and

- a validity indicator configured to provide(see col. 3, lines 39-49, the routing device maintains the flow cache and remove message flow that are no longer valid. Indicating message flow is no longer valid);

- wherein said data structure is searched for a second entry containing said flow number when said first packet is transferred to the host computer to determine if said communication flow also comprises a second packet received at the network interface after said first packet (see col. 3-4, lines 57-7, the routing device identifies a message flow, the packets are compared to determine if is part of a message flow).

Kerr et al. fails to specifically point out a first indication if said first packet is ready for transfer to the host computer; and a second indication if said first packet is a control packet as claimed;

Davies et al teaches a first indication if said first packet is ready for transfer to the host computer (See col4, lines 8-13, The disabling step can include checking if a run length encoded data transfer is pending from the host, and if so, delaying disabling of the data transfers from the host to the peripheral until a data byte associated with the run length encoded data is received by the interface controller, otherwise do not delay a second indication if said first packet is a control packet(see col. 3, lines 28-41, method can include after execution of the step of transferring a data block, either setting the interface controller to disable acknowledgment of receipt of data if a flow control status flag indicates pending flow stop, receiving of control packets)

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to combine Kerr et al. invention with Davies et al. invention because Davies et al. invention provides provide methods and apparatus for reducing the complexity of programming on the peripheral side of an IEEE interface (see Davies et al. col. 3, lines 10-16).

Applicants have amended claim 23 to recite, in part, "a first indication if said first packet is free of errors and ready for transfer to the host computer." Support for this amendment can be found, for example, on page 87, line 16 – page 88, line 7 of the specification. Neither Kerr nor Davies teaches this recitation. Applicants respectfully assert that one of ordinary skill in the art would not have arrived at this limitation if presented with Kerr in view of Davies. For these reasons applicants respectfully assert that claim 23 is nonobvious over Kerr in view of Davies.

II. Conclusion

For the reasons mentioned above, applicants respectfully assert that the pending claims are in condition for allowance, and a Notice of Allowance is solicited.

Respectfully submitted,

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage for 1st class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 22, 2010.

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